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3/1/53

Proposed Ecological Studies on Screw Worm -

I. Captiva Island and Sanibel Island.

1. Natural Population Density Studies

- a. ~~April 15 - May 15~~ - Release 100 Radioactive
Animal Rearing Fertilized Females and 100 Radioactive
" " Fertilized Males per square mile per week.
Allow Flies to emerge in the laboratory
at Sanibel and 24 hours after emergence
release flies ^{2 times a week} on alternate days ^(Except Sundays) in at
least 3 locations (Equal to about ³²⁵ flies
of each sex in each release location each
release date) ^{several times}
- b. operate animal host pen on Captiva
Collect Egg masses Daily to check ratio
of Radioactive to non-Radioactive.
- c. operate ^{one} animal host pen on Sanibel Island
to determine if any radioactive females
migrated from Captiva to Sanibel.
- d. operate one fly trap on Captiva
Determine Ratio of Radioactive and non
Radioactive flies trapped
- e. operate one fly trap on Sanibel
Determine if any released flies migrated
from Captiva to Sanibel

II Vicinity of Trap 13 ^{or} 11

1. Trap Studies - May 1 to June 15

a. Beginning May 1. operate 4 traps in vicinity of Trap 13. Examining catches each week.

b. Retain Trap 13 as standard ^(No 1.). This trap is located near a large hog farm.

c. Establish another standard ^(No 2.) in a similar appearing area about 1 mile from trap 13 but where hogs are absent or few in number.

d. The two remaining traps ⁽³⁺⁴⁾ to be mobile and moved every two weeks, within a 5 mile radius of trap 13. In each new location one of the two is to be placed on a hog farm. The other in a similar situation but where hogs are absent or few in numbers.

e. all catches to be collected and examined each week.

2. Animal Host Bins - May 15 - July 1.

Beginning May 15. operate 2 animal host bins.

a. Bin no 1 to be operated within 200 yds from trap 13

b. Bin no 2 to be operated within a radius of 1 mile from no 13 in a similar situation but where hogs are absent or few in numbers.

c. compare number egg masses on animal hosts in each location

July 1 to Aug 1

3. Screw worm Population Studies in Relation to Emergence Area.
a. Determine if screw worms tend to remain in areas where they developed

(1) In favorable ecological site.

Trap 13 - ^(Except Sundays) Release each week on alternate days - 500 Radioactive fertile females (like number of males) within radius of 200 yds of ^{Host} Pen # 13 (no. 1). Release 100 in each of 5 locations - or 33 in each location on each release date.

(2) In unfavorable ecological site.

Host Pen no 2 - 1 mile from no. 1 (Trap 13)

Follow the same procedure as given under 3 a. (1). Except that flies released in this location will be reared on media containing approx 5 times the radioactivity so the source of eggs can be determined.

(3) Operate fly trap in to near host pens no 1 and 2. Examine catches each week for ratio of Radioactive to wild flies.

(4) Collect egg masses each day on animal hosts. Determine ratio of radioactive to non radioactive ^{if possible, the} egg masses in each location and ^{Source} of the radioactive eggs.

4 Population Density Studies (Aug 15 - Sept 15)

In 100 square mile area with Trap 13 as center conduct following Population density study.

a. Release 100 flies (mixed sexes)

Radioactive and fertile in the area each week. Releases to be made two or three times each week with air plane at 1 mile intervals (quarage).

b. operate host pins no 1 and 2. and add three pins as follows:

no 3 2.5 miles from center of area.

no 4. on border of release area

no 5 2.5 miles outside of release area.

c. Determine ratio of Radio active to non radio active egg masses

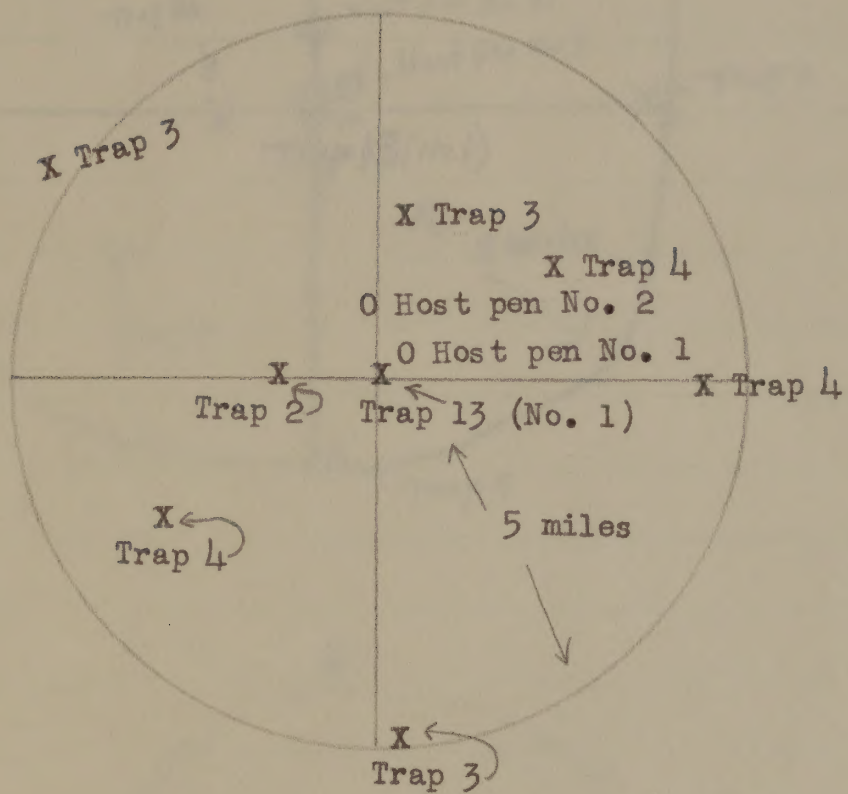
d. operate a fly trap within several hundred yards from each host pin location and a 6th trap 5 miles from border of release area

1953 to
Oct 15 - May - 1954

III Sanebil Island Eradication attempt. ¹

1. Initiate some type of study.
Now under way in an effort to eradicate
Screw worms from Sanebil and Captiva
Islands. First releases to be made
Nov 1, 1953.

100 square miles



100 sq mi

